

Appl. No.: 10/672,236  
Amendment Dated November 8, 2006  
Reply to Office Action of June 19, 2006

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**Remarks/Arguments:**

Claims 1-23 are presently pending. All pending claims stand rejected. Applicants herein amend claims 1, 16, 19 and 20.

Claims 1-6, 16-19, 22 and 23 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Heimsoth et al. and Broder et al. Applicants respectfully request reconsideration of this rejection because neither Heimsoth et al., Broder et al. nor their combination disclose or suggest,

a task queue for storing the plurality of constituent tasks that need to be performed for said annotation request;

a thread-controlling means for maintaining a plurality of threads;

an assigning means for assigning said plurality of threads to said plurality of constituent tasks in said task queue; and

task execution means for concurrently executing the plurality of constituent tasks in the respective plurality of threads

as required by claim 1, claims 16 and 19 include similar limitations. Basis for the amendments to claims 1, 16 and 19 may be found at page 15, lines 1-17.

Heimsoth et al. does disclose a thread pool but it does not disclose task execution means for executing the plurality of constituent tasks in the respective plurality of threads. Instead, the tasks in Heimsoth et al. are executed before the threads are assigned. (See col. 22, line 61 through col. 23, line 7). This is because the threads in Heimsoth et al. are not used for task execution but for session management.

This limitation of claims 1, 16 and 19 is not disclosed by Broder et al. Broder et al. was cited as disclosing a task queue. Broder et al. do not disclose or suggest any threads. Instead, Broder et al. disclose multiple processors (servers) operating in parallel, each of which includes a task queue. Tasks are assigned to servers based on a load-balancing algorithm. (See col. 2, lines 51-64). The tasks assigned to each processor are stored in a task queue and are executed one at a time as they reach the head of the queue. Thus, the tasks run on individual processors in parallel. (See col. 4, lines 21-28). Thus, these tasks can not be executed in the threads concurrently with other threads on the same processor or task execution means as required by claims 1, 16 and 19.

Because neither Heimsoth et al., Broder et al. nor their combination disclose or suggest this limitation of claims 1, 16 and 19, these claims are not subject to rejection under 35 U.S.C.

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§ 103(a) in view of Heimsoth et al. and Broder et al. Claims 2-6 depend from claim 1; claim 18 depends from claim 16 and claims 22 and 23 depend from claim 19. Thus, these claims are not subject to rejection under 35 U.S.C. § 103(a) in view of Heimsoth et al. and Broder et al. for at least the same reasons as the claims from which they depend.

Claim 7 was rejected under 35 U.S.C. § 103(a) as being obvious in view of Heimsoth et al., Broder et al. and Bahr et al. Heimsoth et al. and Broder et al. are described above. Bahr et al. concerns a multiprocessor system where each processor includes a cache memory. Bahr et al. attempt to maintain a relationship (i.e. an affinity) between a task and its subtasks and a corresponding one of the processors. This is done to make use of the data for the task which is held in the cache memory of the processor. (See col. 5, lines 20-25 and col. 7, lines 31-41). Bahr et al. do not disclose or suggest any threads. Indeed, because Bahr et al. concerns a multiprocessor system, threads are not needed. Thus, Bahr et al. can not provide the material that is missing from Heimsoth et al. and Broder et al. Consequently, claim 1 and claim 7 which depends from it are not subject to rejection under 35 U.S.C. § 103(a) in view of Heimsoth et al., Broder et al. and Bahr et al.

Claims 8 and 9 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Heimsoth et al., Broder et al., and Bauer. Heimsoth and Broder et al. are described above. Bauer concerns a user interface for Internet or intranet agents which assists users in controlling tasks which require the launch of a process, especially where the task is time-based. (See col. 2, lines 48-62). Bauer does not disclose or suggest threads or using threads to execute tasks. Thus, Bauer can not provide the material that is missing from Heimsoth et al. and Broder et al. Consequently, claim 1 and claims 8 and 9 which depend from it are not subject to rejection under 35 U.S.C. § 103(a) in view of Heimsoth et al., Broder et al., and Bauer.

Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Heimsoth et al., Broder et al., and van Hoff. Heimsoth et al. and Broder et al. are described above. The van Hoff patent concerns a system for adding requested cross references to a document as hyperlinks. This patent, however, does not disclose or suggest threads or executing tasks in threads. Thus, Bauer can not provide the material that is missing from Heimsoth et al. and Broder et al. Consequently, claim 1 and claims 8 and 9 which depend from it are not subject to rejection under 35 U.S.C. § 103(a) in view of Heimsoth et al., Broder et al., and van Hoff. Consequently, claim 1 and claims 10 and 11 which depend from it are not subject to rejection under 35 U.S.C. § 103(a) in view of Heimsoth et al., Broder et al., and van Hoff.

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Claims 12-15, 20 and 21 were rejected under 35 U.S.C. § 103(a) as being obvious in view of Heimsoth et al., Broder et al., and Spix et al. Heimsoth et al. and Broder et al. are described above. Spix et al. concerns a system for controlling a highly parallel multiprocessor using an anarchy-based scheduler for parallel execution thread scheduling. The term "thread" used by Spix et al. represents a different concept than the "thread" of the subject application. Spix et al. define "thread" as "a part of a program that is logically independent from another part of the program and can therefore be executed in parallel with other threads of the program." (See col. 2, lines 9-12). In the subject application, however, "thread" is defined as "an authorization without which a particular request cannot be executed by the server. The thread is a signal given by the operating system to ensure that there are sufficient resources from the system to allow a request to be executed." (See page 3, lines 21-24). Thus, a "thread" as it is used by Spix et al. corresponds to a "task" in the subject application. (See claim 1, lines 4-5 as originally filed). Spix et al. do not execute threads (tasks) concurrently on a processor but, instead, assign threads (tasks) to different processors for execution. (See col. 2, lines 65-67). Thus, Spix et al. does not provide the material that is missing from Heimsoth et al. and Broder et al. Consequently, claims 1 and claims 12-15 which depend from it and claim 19 and claims 20 and 21 which depend from it are not subject to rejection under 35 U.S.C. § 103(a) in view of Heimsoth et al. and Broder et al. and Spix et al.

With regard to claim 14, Applicant's Attorney requests clarification of the "Official Notice" taken by the Examiner. In the Office Action, it is stated that official notice is take of "wherein upon said notification of one or more of said plurality of constituent tasks which require results from said executed I/O tasks are rendered ready for execution." Applicant's Attorney is unclear as to what this statement means in terms of the Official Notice taken by the Examiner and requests clarification before acquiescing to the Official Notice.

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In view of the foregoing amendments and remarks, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1-23.

Respectfully submitted,

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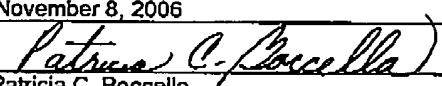
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November 8, 2006

  
Patricia C. Boccella